REMARKS

Claims 20, 22-24, 28 and 30-32 have been amended. Claims 21 and 29 have been canceled. Claims 1-19, 22-28 and 30-35 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 103(a) Rejections:

The Examiner rejected claims 1, 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Burbeck et al. (U.S. Publication 2003/0217139) (hereinafter "Burbeck") in view of Krishnan ("The JXTA Solution to P2P"). Applicants respectfully traverse this rejection for at least the following reasons.

In regard to claim 1, contrary to the Examiner's assertion, the cited art fails to teach or suggest *wherein each advertisement corresponds to a specific one of the plurality of contents cached on the peer node.* The Examiner cites Burbeck, paragraph [0023], lines 1-3. The citation states (emphasis added):

> Preferably, as each node as it enters the network, it broadcasts <u>a message</u> to advertise (inter alia) what content the node holds.

This broadcast message corresponds to the "alive" message that a node broadcasts to advertise its presence on the network, e.g. at startup time (*see, e.g.,* paragraph [0111]). Thus, Burbeck's nodes send a single "alive" message that 1) advertises the node's presence; and 2) provides information on how to determine what content a node holds. In contrast, claim 1 recites that each publisher peer node publishes advertisements on the network, and <u>each</u> of the published advertisements corresponds to a <u>specific one</u> of the contents cached on the peer node. Thus, in claim 1 of the instant application, there is a one-to-one correspondence between an advertisement and a <u>specific</u> corresponding content, and each advertisement is published on the network independently. Thus, each content is published independently in claim 1, in contrast to Burbeck in which one "alive" message is broadcast to advertise how to access whatever content that the node holds.

In further regard to claim 1, contrary to the Examiner's assertion, the cited art fails to teach or suggest *wherein each advertisement includes information for requesting the specific corresponding content.* The Examiner cites Burbeck paragraph [0111] lines 18-25 and paragraphs [0112]-[0113] as teaching this aspect of Applicants' claim. In the cited paragraphs, Burbeck teaches a node advertising its presence on the network. Paragraph [0111] teaches that the alive message contains information about the node's reputation, linkbase, a callback for a response, and an indicator of how to discover the file sharing service the node provides. Paragraph [0112] teaches using a UDDI registry and paragraph [0113] teaches non-UDDI ways of discovering the file sharing service. Burbeck fig. 9 illustrates an alive message and clearly none of the elements included in the message advertise a specific content. Burbeck does not teach that the alive message includes an advertisement for <u>specific content</u>. Further, the section of Burbeck that includes paragraphs [0111]-[0113] teaches an initialization process ("bootstrap flow", Burbeck paragraph [0106]). Burbeck fig 8 shows the flowchart for this initialization. Since the purpose of the alive message is to announce the presence of a node, it is not obvious how to combine this flow with the idea of a single advertisement message for each specific content. In contrast, Applicants' claim 1 recites *each advertisement includes information for requesting the specific corresponding content.* Burbeck teaches a single "alive" message that advertises how to determine what content a node holds, not information about requesting specific content. Thus, Burbeck clearly does not describe *wherein each advertisement corresponds to a specific one of the plurality of contents cached on the peer node, and wherein each advertisement includes information for requesting the specific corresponding content.*

In further regard to claim 1, contrary to the Examiner's assertion, the cited art fails to teach or suggest *and become an additional content publisher peer node for the content corresponding to the discovered advertisement.* The Examiner cites Burbeck [0118] lines 1-9 as teaching this aspect of Applicants' claim. The cited reference continues to teach the initialization process. In Burbeck's system, a second node that receives an alive message from a first node and propagates the alive message to other

nodes is not advertising content on the second node. The second node does not have the content at this point in the method taught by Burbeck, nor is it promising to acquire the content, much less make it available to other nodes. Instead, the propagated "alive" message only advertises the first node. Applicants' claim 1 recites *and become an additional content publisher peer node.* A node publishing content is not the same as a node forwarding alive messages or advertisements. Burbeck does not teach that when requesting nodes receive content from publishers that the requesters become publishers for that content. Thus, Burbeck clearly does not describe *and become an additional content publisher peer node for the content corresponding to the discovered advertisement.*

In further regard to claim 1, contrary to the Examiner's assertion, the cited art fails to teach or suggest *wherein to publish the one or more advertisements on the network the publisher peer node is configured to send the one or more advertisements to a rendezvous peer node, wherein the rendezvous peer node caches the one or more advertisements.* The Examiner cites Krishnan pg. 5 as teaching this aspect of Applicants' claim. Krishnan teaches that a rendezvous peer can store information about other peers by caching these peers' advertisements. Krishnan does not teach explicitly in this section how a rendezvous peer acquires the advertisements of other peers. However, Krishnan does not teach any way to acquire advertisements other than sending a query to the publishing node. On pg. 6, Krishnan lists the Jxta protocols that are available to nodes and gives summaries of their capabilities and uses. The Peer Discovery Protocol is used by peers "to <u>discover</u> all published Jxta resources" and "essentially helps a peer <u>discover</u> an advertisement on other peers." The Peer Resolver Protocol standardizes query formats. These queries can be used to "locate some service or content." The Peer Information Protocol allows a peer to respond to a ping message. One of the possible responses that a node can give in response to a ping message is its advertisement. The descriptions of the other three protocols (Peer Membership Protocol, Pipe Binding Protocol, and Endpoint Routing Protocol) do not mention content or advertisements. Krishnan, then, teaches "publish" as being able to responds to a query by returning an advertisement. The only mechanisms taught by Krishnan require peer nodes to send

queries and receive replies containing advertisements. Applicants' claim 1 recites *the publisher peer node is configured to send the one or more advertisements to a rendezvous peer node.* Krishnan does not teach a publisher peer node specifically configured to send advertisements to a rendezvous node. Krishnan teaches that publishers can respond to requests, but no special provision is made for sending requests to rendezvous nodes. Thus, Krishnan clearly does not describe *wherein to publish the one or more advertisements on the network the publisher peer node is configured to send the one or more advertisements to a rendezvous peer node, wherein the rendezvous peer node caches the one or more advertisements.*

Thus, for at least the reasons presented above, the rejection of claim 1 is not supported by the cited art and removal thereof is respectfully requested.

The Examiner rejected claims 12-14 as being unpatentable over Burbeck in view of Teodosiu et al. (U.S. Publication 2002/0107982) (hereinafter "Teodosiu"). Applicants respectfully traverse this rejection for at least the following reasons.

In regard to claim 12, contrary to the Examiner's assertion, the cited art fails to teach or suggest *for which the edge content publisher peer node is logically nearer to the one or more of the other peer nodes than the primary content publisher peer node such that communications over the network between the edge content publisher peer node and the other peer node take less time than communications over the network between the primary content publisher peer node and the other peer node regardless of physical proximity.* The Examiner cites Teodosiu paragraphs [0047] and [0033] as teaching this aspect of Applicants' claim. Teodosiu [0047] teaches a server that can return a selection of possible hosts, and that the server can take IP address into account in making a selection. In contrast, Applicants' claim 12 recites *is logically nearer to the one or more of the other peer nodes than the <u>primary content publisher</u> peer node.* Teodosiu does not teach that the selection is in any way determined <u>by the logical proximity *of the primary content publisher*</u>.

Teodosiu [0033] teaches assigning a client to an "RNS server." Teodosiu [0029] teaches "...a Resource Naming Service (RNS) that is used to track and locate resources among peers in a peer-to-peer networking environment." Thus an RNS server does not provide content but rather is used by peers to locate content. An RNS server has peers assigned to it ("As part of the registration process, registrar 110 assigns each peer an identifier that is unique within realm 150, and also assigns each peer to a particular RNS server 130, hereafter called the "home RNS server" for that peer." Teodosiu [0031]). A peer, therefore, has an ongoing relationship with an RNS server. Teodosiu distinguishes between peers and RNS servers (Teodosiu fig. 1). Applicants' claim 12 recites that *the edge content publisher peer node* is logically nearer. A publisher peer node publishes content that it has acquired from a primary content publisher and is clearly not equivalent to an RNS server that is used to track and locate resources. Thus Teodosiu clearly does not describe *for which the edge content publisher peer node is logically nearer to the one or more of the other peer nodes than the primary content publisher peer node such that communications over the network between the edge content publisher peer node and the other peer node take less time than communications over the network between the primary content publisher peer node and the other peer node regardless of physical proximity.*

Thus, for at least the reasons presented above, the rejection of claim 12 is not supported by the cited art and removal thereof is respectfully requested.

The Examiner rejected claims 2, 3, 5, 8-11, 18-23, 25-31 and 33-35 as being unpatentable over Burbeck in view of Krishnan and Teodosiu. Applicants respectfully traverse this rejection for at least the following reasons.

In regard to claim 20, contrary to the Examiner's assertion, the cited art fails to teach or suggest *if the one of the other peer nodes is logically nearer to the different peer node on the network than the content publisher peer node, the different peer node receiving the particular content from the one of the other peer nodes; and if the content publisher peer node is logically nearer to the different peer node on the network than the*

one of the other peer nodes, the different peer node receiving the particular content from the content publisher peer node; wherein a logically nearer peer node is the peer node to which communications over the network take the least time. The Examiner cites Teodosiu paragraphs [0047] and [0033] as teaching this aspect of Applicants' claim. Teodosiu [0047] teaches a server that can return a selection of possible hosts, and that the server can take IP address into account in making a selection in order to "optimize network traffic" (Teodosiu [0047]). In contrast, Applicants' claim 20 recites *wherein a logically nearer peer node is the peer node to which communications over the network take the least time.* Teodosiu does not define "optimize network traffic" other than to indicate that it is a result of selecting addresses that are "proximal" in terms of <u>network topology</u>. One skilled in the art will realize that it is not always the case that a "proximal" node will be the *node to which communications over the network take the least time.* Factors other than network topology will affect communication time between nodes. Clearly, selecting nodes based on communication time over the network as in Applicants' claim is not equivalent to selecting nodes based on network topology.

Teodosiu [0033] teaches assigning a client to an "RNS server." Teodosiu [0029] teaches "...a Resource Naming Service (RNS) that is used to track and locate resources among peers in a peer-to-peer networking environment." Thus an RNS server does not provide content but rather is used by peers to locate content. An RNS server has peers assigned to it ("As part of the registration process, registrar 110 assigns each peer an identifier that is unique within realm 150, and also assigns each peer to a particular RNS server 130, hereafter called the "home RNS server" for that peer." Teodosiu [0031]). A peer, therefore, has an ongoing relationship with an RNS server. Teodosiu distinguishes between peers and RNS servers (Teodosiu fig. 1). Applicants' claim 20 recites that *the one of the other peer nodes is logically nearer* and *if the content publisher peer node is logically nearer.* A publisher peer node publishes content that it has acquired from a primary content publisher and is clearly not equivalent to an RNS server that is used to track and locate resources. The RNS server provides a different type of information. As discussed above Teodosiu teaches a different method for selecting publisher nodes to provide content, specifically that publisher nodes can be chosen that are "proximal" in

terms of "network topology." Thus Teodosiu clearly does not describe *if the one of the other peer nodes is logically nearer to the different peer node on the network than the content publisher peer node, the different peer node receiving the particular content from the one of the other peer nodes; and if the content publisher peer node is logically nearer to the different peer node on the network than the one of the other peer nodes, the different peer node receiving the particular content from the content publisher peer node; wherein a logically nearer peer node is the peer node to which communications over the network take the least time.*

Thus, for at least the reasons presented above, the rejection of claim 20 is not supported by the cited art and removal thereof is respectfully requested. Similar comments apply to claim 28.

In regard to claim 8, contrary to the Examiner's assertion, the cited art fails to teach or suggest *receive the particular content from a logically nearest content publisher peer node of the plurality of content publisher peer nodes on the network, wherein a logically nearest peer node is a peer node to which communications over the network take the least time.* The Examiner cites Teodosiu fig. 4, paragraphs [0045]-[0047] and paragraph [0033] as teaching this aspect of Applicants' claim. The cited sections of Teodosiu teach selecting a list of peers that can provide a requested content based on several criteria, one of which can be the requester's IP address ("In one embodiment, the RNS server may select the locations to be returned in 230 based on the requester's network (IP) address, in order to provide the requester with addresses that are "proximal" in terms of network topology, and thus optimize network traffic" Teodosiu [0047]). The communication time over the network is not a criteria for constructing the list. Teodosiu [0033] teaches that "RNS servers" can be assigned based on <u>response</u> time. Teodosiu teaches "That is, <u>depending on network topology</u>, the peer 140 is <u>likely</u> to be "closer" to some RNS servers than others, either by physical distance or by the speed of the network medium." In addition, "RNS servers are distinguished from peers (Teodosiu fig. 1) and <u>do not provide content</u> ("...a Resource Naming Service (RNS) that is used to track and locate resources among peers in a peer-to-peer networking environment" Teodosiu

[0029]). Applicants' claim 8 recites *receive the particular content from a peer node to which communications over the network take the least time.* The cited sections of Teodosiu do not teach that content publisher nodes are selected based on communication time over the network. Teodosiu teaches that content publisher nodes may be selected based on addresses that are "proximal" in terms of network topology. Teodosiu uses network topology instead of communication time. Thus Teodosiu does not describe *receive the particular content from a logically nearest content publisher peer node of the plurality of content publisher peer nodes on the network, wherein a logically nearest peer node is a peer node to which communications over the network take the least time.*

Thus, for at least the reasons presented above, the rejection of claim 8 is not supported by the cited art and removal thereof is respectfully requested. Similar comments apply to claim 18.

The Examiner rejected claim 15 as being unpatentable over Burbeck and Teodosiu, and further in view of Saulpaugh et al. (U.S. Publication 2004/0122903) (hereinafter "Saulpaugh"). Applicants respectfully traverse this rejection for at least the following reasons.

Regarding claim 15, contrary to the Examiner's assertion, the cited art fails to teach or suggest *receive a portion of the particular content from the primary content publisher peer node in response to the request; receive a redirection to the edge content publisher peer node from the primary content publisher peer node; and receive another portion of the particular content from the edge content publisher peer node in response to the redirection.* The Examiner cites Saulpaugh paragraph [0076] as teaching this aspect of Applicants' claim. In the cited section, Saulpaugh teaches forwarding a message to the nodes that are assigned a particular role instance. The result is that all instances of the role receive the message. Applicants' claim 15 recites an edge peer node configured to *receive a portion of the particular content from the primary content publisher peer node* and *receive another portion of the particular content from the edge content publisher peer node.* The edge peer node is configured to receive part of the content from one

node, and in response to a redirection, receive another part of the content from another node. Forwarding messages to role instances has nothing to do with providing content. Saulpaugh teaches nothing about providing content, or any type of service, to a peer node. Nor is there any teaching of redirecting a peer node from one publisher to another publisher. Saulpaugh teaches only that role instances can forward a message directed to a role so that all role instances receive the message. Thus Saulpaugh clearly does not describe *receive a portion of the particular content from the primary content publisher peer node in response to the request; receive a redirection to the edge content publisher peer node from the primary content publisher peer node; and receive another portion of the particular content from the edge content publisher peer node in response to the redirection.*

Thus, for at least the reasons presented above, the rejection of claim 15 is not supported by the cited art and removal thereof is respectfully requested.

In regard to the rejections under section 103, Applicant also asserts that the rejection of numerous ones of the dependent claims is further unsupported by the teachings of the cited art. However, since the rejection of the independent claims has been shown to be improper, a further discussion of the rejection of the dependent claims is not necessary at this time.

CONCLUSION

Applicants submit the application is in condition for allowance, and an early notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-08300/RCK.

Respectfully submitted,

/Robert C. Kowert/
Robert C. Kowert, Reg. #39,255
Attorney for Applicants

Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C.
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8850

Date: ____ August 21, 2009 ____